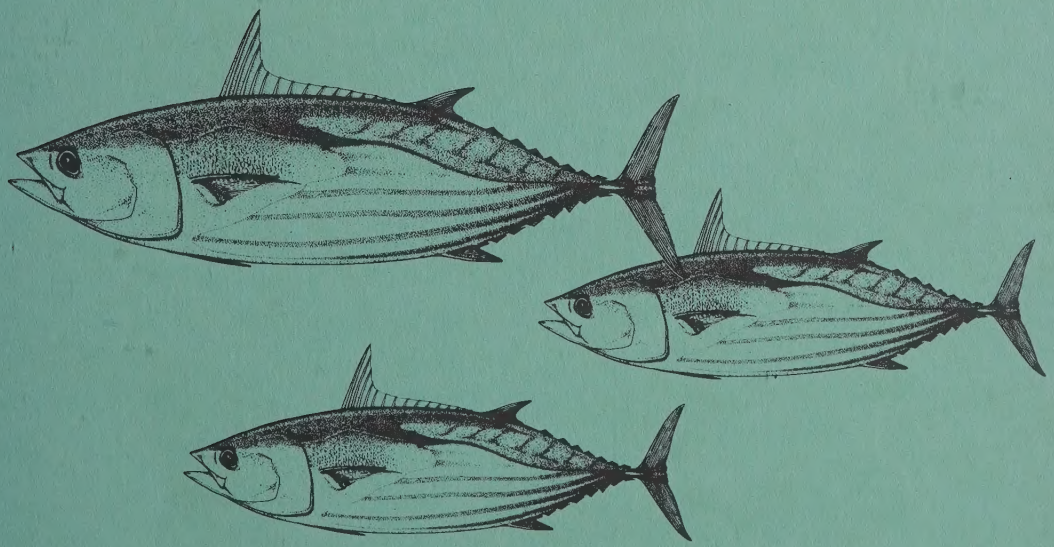
SEPTEMBER 1977
No. 9

FISHING INFORMATION

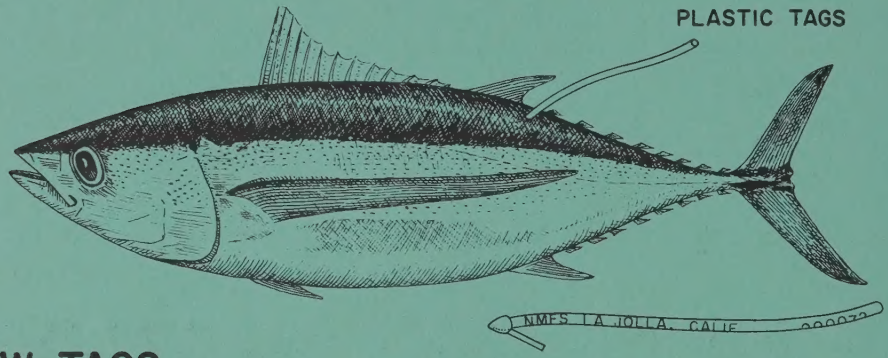
Southwest Fisheries Center-La Jolla, California



noaa NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION / NATIONAL MARINE FISHERIES SERVICE

$ REWARD $

FOR ALBACORE TUNA TAGS



YELLOW TAGS

THE NATIONAL MARINE FISHERIES SERVICE WILL PAY $ 2.00 FOR EACH YELLOW TAG RECOVERED. (NO NEED TO RETURN FISH)

RECORD:

- WHERE
- WHEN
- HOW

} *FISH WAS CAUGHT*

- LENGTH OF FISH (TIP OF LOWER JAW TO FORK OF TAIL)

FORWARD TO NMFS ADDRESS ON TAG

RED TAGS

THE NATIONAL MARINE FISHERIES SERVICE WILL PAY $ 50.00 FOR EACH RED TAG & FISH RETURNED. (FISH WITH TAG INTACT MUST BE RETURNED)

RECORD:

- WHERE
- WHEN
- HOW

} *FISH WAS CAUGHT*

- LENGTH OF FISH (TIP OF LOWER JAW TO FORK OF TAIL)

NOTIFY NMFS P.O. BOX 271, LA JOLLA, CA. TEL. (714) 453-2820

THE AMERICAN FISHERMEN'S RESEARCH FOUNDATION WILL AWARD CASH PRIZES FOR YELLOW & RED TAG NUMBERS DRAWN IN AN ANNUAL LOTTERY.

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
SOUTHWEST FISHERIES CENTER
8604 LA JOLLA SHORES DRIVE - P. O. BOX 271
LA JOLLA, CALIFORNIA 92037

FISHING INFORMATION

SEPTEMBER 1977, No. 9

EDITOR: JAMES A. RENNER

I. Barrett, Director, SOUTHWEST FISHERIES CENTER
R. Lasker, Acting Deputy Director
R. Shomura, Director, Honolulu Laboratory
N. Abramson, Director, Tiburon Laboratory
G. Seckel, Director, Pacific Environmental Group

PREFACE

This publication, Fishing Information, appears monthly and contains 1) fishery advisory information, 2) a narrative description of pertinent surface temperature conditions, 3) charts of winds and pressures for the eastern North Pacific, 4) charts of sea surface temperature for the North Pacific and eastern tropical Pacific, and 5) charts of subsurface temperature structure in the eastern North Pacific.

A supplement to Fishing Information appears at 15-day intervals throughout the year. It contains a chart of sea surface temperature (contoured at 2°F (1°C) intervals) from Baja California to Vancouver Island out to about 135°W. Special bulletins are published in conjunction with the 15-day sea surface temperature charts which include short-term projections of albacore distribution and locations of productive fishing areas, information on oceanographic and atmospheric conditions, and other information as is appropriate during the albacore fishing season.

The Secretary of Commerce has determined that the publication of this periodical is necessary in the transaction of the public business required by law of this Department.

Submitted for publication - October 25, 1977

CONTENTS

		Page
Acknowledgements		iv
Sea Surface Temperature and Environmental Conditions - September 1977, Forrest R. Miller		1
ENVIRONMENTAL CHARTS, PACIFIC OCEAN - September 1977		
Figure 1.	Seventeen-year mean (1961-1977) observed sea level values of barometric pressure (millibars), resultant wind direction (degrees true), resultant wind speed (knots) and average winds speed (knots) regardless of direction.	4
Figure 2.	Observed sea level values of barometric pressure (millibars), resultant wind direction (degrees true), resultant wind speed (knots) and average wind speed (knots) regardless of direction.	5
Figure 3.	Mean sea surface temperature, eastern North Pacific Ocean. Square shows temperatures at weathership station. Numerals on shore are temperatures at coastal and lightship stations.	6
Figure 4.	Mean sea surface temperature chart, western North Pacific Ocean.	7
Figure 5.	Deviation of sea surface temperatures, eastern North Pacific Ocean from 20-year mean (1948-67). Hatched areas are colder in 1977.	8
Figure 6.	Deviation of sea surface temperatures, western North Pacific Ocean from 20-year mean (1948-67). Hatched areas are colder in 1977.	9
Figure 7.	Deviation of sea surface temperatures, eastern North Pacific Ocean from those of September 1977. Hatched areas are colder in 1977.	10
Figure 8.	Mean sea surface temperatures, eastern tropical Pacific Ocean.	11
Figure 9.	Deviation of sea surface temperatures, eastern tropical Pacific Ocean from 20-year mean (1948-67). Shaded areas are colder in 1977. Contours are dashed in sparse data areas.	12
Figure 10.	Surface temperature and salinity and subsurface temperature structure from expendable bathythermograph observations between San Francisco and Honolulu September 1-8, 1977.	13

ENVIRONMENTAL CHARTS ANALYZED BY:

F. Miller (Figures 8 and 9)
J. Renner (Figures 1, 2, 3, 4, 5, 6, 7, and 15 day Supplement)

TECHNICAL EDITOR:
R. Allen
CARTOGRAPHY:
R. Allen, H. Orr

Acknowledgements

The following organizations and stations contributed data for September 1977 charts:

Inter-American Tropical Tuna Commission, La Jolla, California
Kelco Company, San Diego, California
National Oceanic and Atmospheric Administration
National Marine Fisheries Service, La Jolla, California; Honolulu, Hawaii
National Weather Service, San Diego, California and Washington, D.C.
National Ocean Survey, Pacific Marine Center, Seattle, Washington

Fisheries Research Board of Canada, Pacific Environment Institute, West Vancouver, British Columbia by L.F. Giovando from observations by
J. Redhead at Langara Island Light; D.S. Robinson at Cape St. James Light;
L. Collins at Kains Island Light; I.G. McNeil at Amphitrite Point Light
Scripps Institution of Oceanography, La Jolla, California

Expendable bathythermograph and salinity observations are made by the mates and engineers of the *Hawaiian Queen* of the Matson Navigation Co. The data are processed under supervision of D.R. McLain at the NMFS Pacific Environmental Group, Monterey, California, using computer facilities of the Fleet Numerical Weather Central, Monterey. The project is partially supported by the National Science Foundation and the Office of Naval Research.

Sea Surface Temperature and Environmental Conditions

Forrest R. Miller

Eastern North Pacific

During September the subtropical Pacific high pressure center normally shifts eastward from its August position along 37°N to near 142°W (Figure 1) with a high pressure ridge extending northeastward over Washington and Oregon. Sea surface temperatures (SST) normally continue to increase through September 600 to 700 miles out from the high pressure center. South of the Aleutian Islands and the Gulf of Alaska surface pressures decrease and westerly winds increase. SST's normally decrease over most areas west of 155°W and to the north of 45° and east of 150°W.

In September 1977 the subtropical high pressure center intensified and moved westward to an average position of 40°N, 157°W, which was about 15° of longitude west of the long-term mean position. Surface pressures south of the Aleutian Islands increased 8 to 10 millibars above normal (Figure 2), and surface westerlies were weaker than normal between 40°N and 50°N across the north Pacific. Most of the month, a weak low pressure trough persisted along the U.S. west coast with only brief periods of high pressure extending from the eastern Pacific high over Washington and Oregon.

The most significant change in SST's occurred in the central north Pacific where north-south SST gradients were weakened by the extensive subtropical high pressure system and associated weaker than normal wind circulations (Figure 3). The large area covered by negative SST departures of more than 2°C in August diminshed in September with less than half the area covered by 1°C departures from 40°N to 45°N between 150°W and 170°W (Figure 5). South of the Aleutian Islands and in the Gulf of Alaska SST's increased as a result of the northward penetration of the Pacific high pressure system. Seasonally, SST's show cooling in this region during September. Most of the area north of 40°N was significantly warmer than in September 1976 (Figure 7). In September 1976 SST's north of 40°N were 1 to 3°C below normal. In contrast, along most of the U.S. west coast SST's were near normal in September 1977, but were slightly colder than a year ago. South of 35°N SST's were near normal except for an area centered near 22°N, 117°W. Here, tropical storm activity combined with weaker than normal surface pressure and winds allowed above-normal warming to continue from August 1977. In September 1977 alternating areas of warm and cold surface water extended southwest from Baja California. The large negative and positive departures from September 1976 for this area reflect significant SST changes from a year ago (Figure 7).

Western North Pacific

During September the high pressure system in the central Pacific extended westward to Japan and northward to the Aleutian Islands. Surface pressures were 2 to 5 millibars above normal. Southerly winds north of 35°N and east of 150°E aided in the transport of warmer surface water along the east coast of Japan toward the Aleutian Islands. Surface wind speeds were lighter than usual from 40°N to 50°N east of 160°E, as a result of the more northerly position of the Pacific high pressure center 42°N, 157°W).

The north Pacific Ocean frontal boundaries were well marked by the north-south packing of SST isotherms from northern Japan to 155°E between 40°N and 50°N (Figure 4). However, east of 155°E the SST contours were more widely spaced in September than in previous months. In this area, a large positive SST departure from normal of more 2°C developed in August and expanded in September (Figure 6). Over the western Pacific south of 35°N SST's were near normal everywhere. A slight warming trend developed from 20°N to 28°N east of 155°E in association with the westward expansion of the very large Pacific high pressure system.

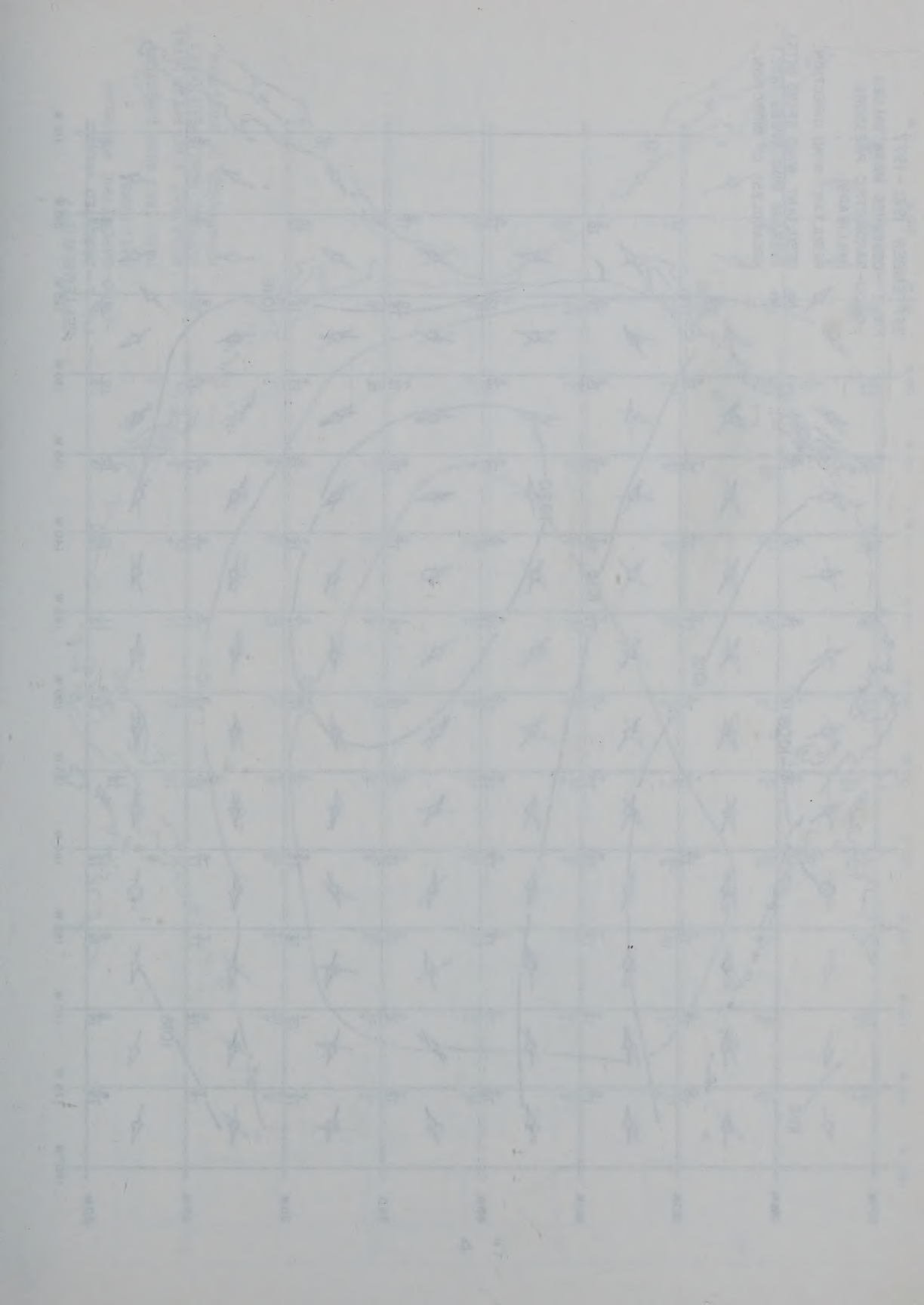
Eastern Tropical Pacific

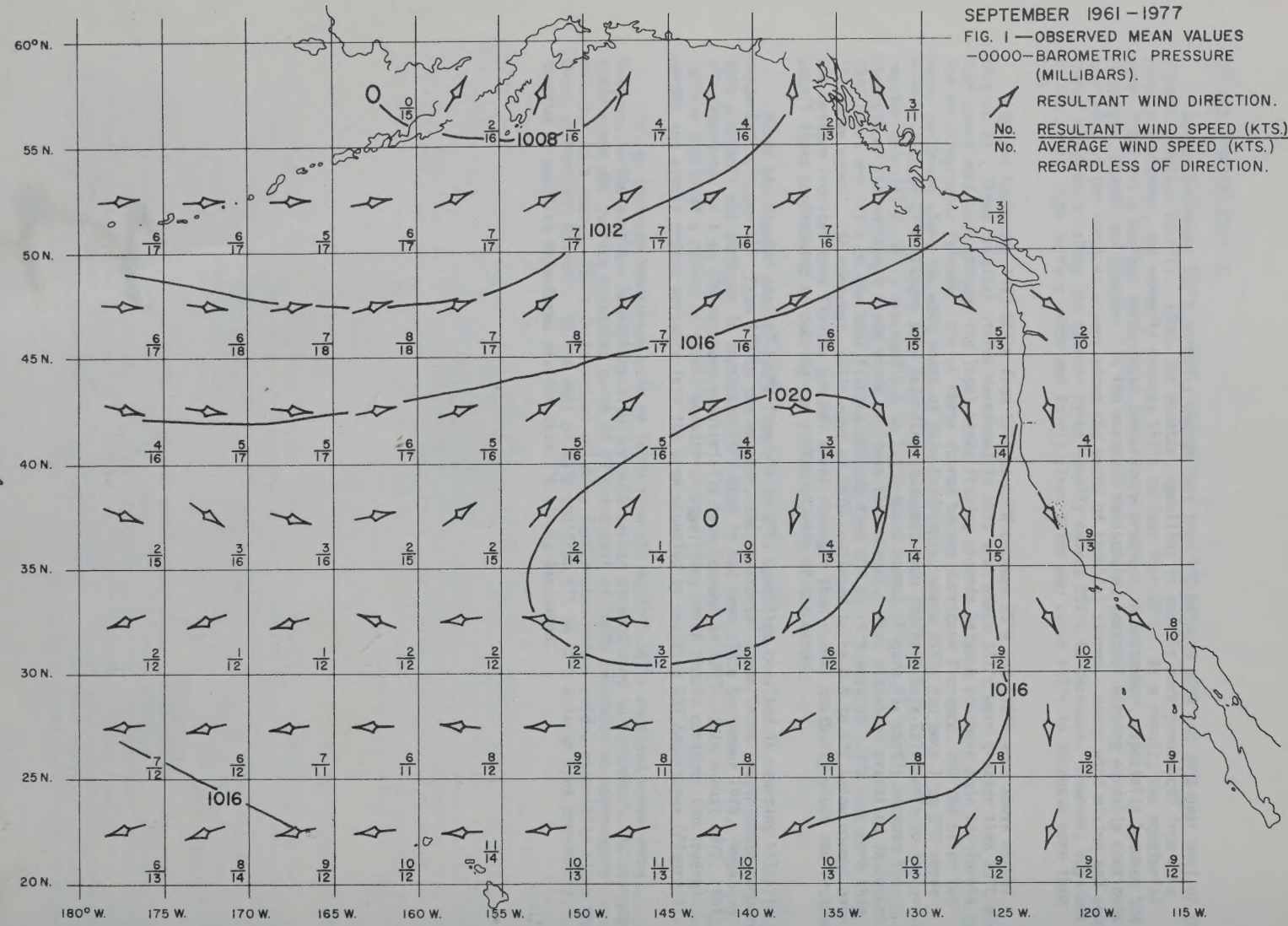
During September SST's normally change less than 1°C between 30°N and 30°S over most of the eastern tropical Pacific. Along the equator, upwelling is usually more pronounced from July through September, and normally reduces SST's to less than 22°C. As a result, the equatorial ocean front has a maximum north-south temperature gradient in September, especially between the Galápagos Islands and Ecuador. In the northern hemisphere, seasonal warming normally continues over most of the tropics, except along the paths of tropical storms. Heavy wind mixing and above-normal cloud cover along the storms' paths usually causes SST's to decrease. However, adjacent to the paths, light surface winds and fairly clear skies may cause SST's to increase more than 1°C.

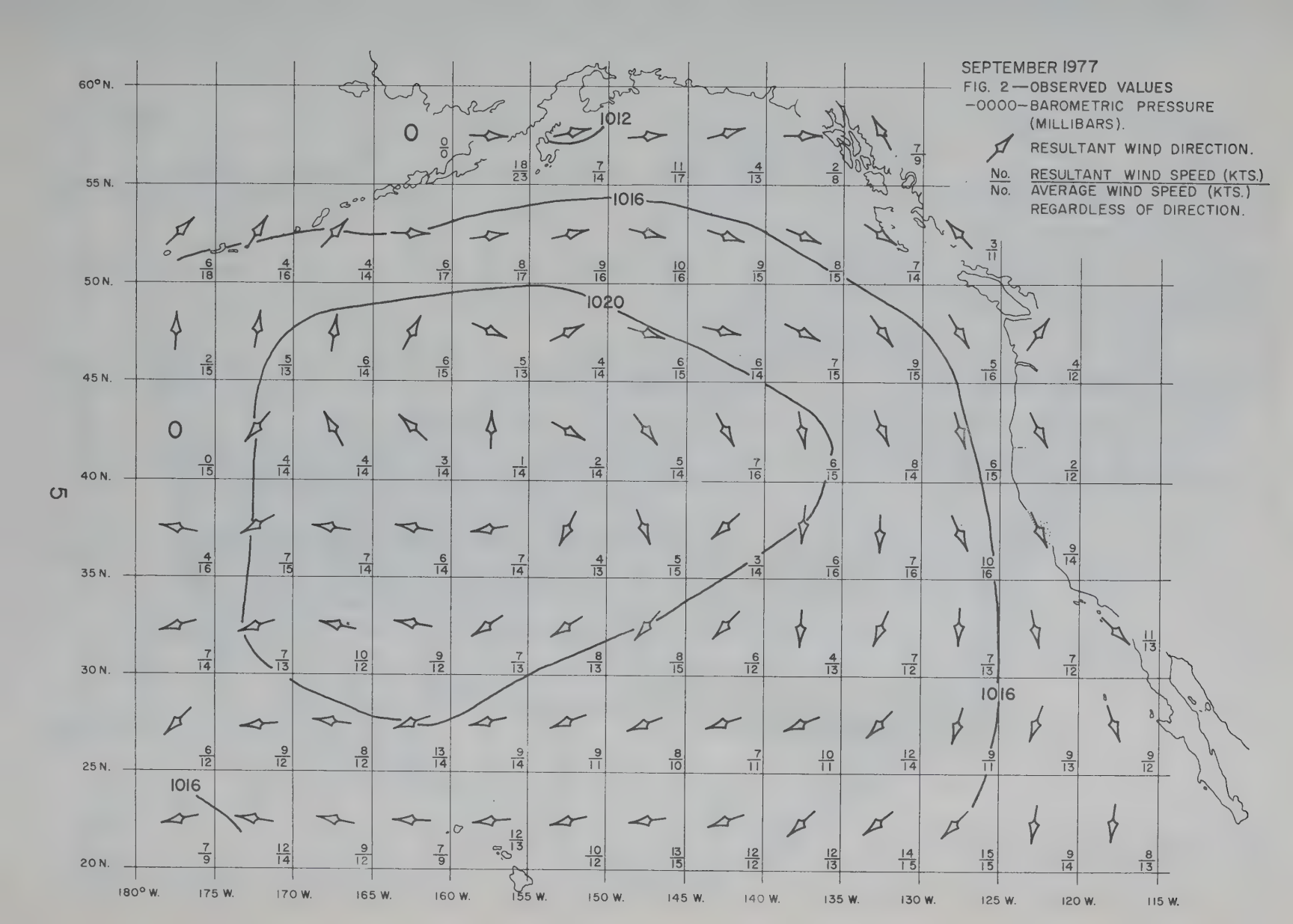
During September 1977 SST's from 10°N to 15°N between 95°W and 115°W were above normal (Figure 8). Three tropical storms developed in this area where SST's were greater than 29°C and then moved northwest through the local banks fishing grounds between southern Baja California and the Revillagigedos Islands. One of these storms became hurricane Florence, and the other two moved northward along the west coast of Baja California, where SST's had been 1 to 2°C above normal south of 27°N (Figure 9). Extending southwest from southern Baja California to the equator near 145°W, SST's averaged 0.5 to 1.5°C above normal (Figure 9), partly because the strength of the northeast trade winds was less than normal. This situation prevailed in August 1977 also; and SST's on the tuna fishing grounds from 5°N to 15°N west of 130°W were more than 1°C above normal. In contrast, SST's east of 95°W continued to be 0.5 to 1°C below normal over the eastern tropical tuna fishing grounds where stronger than normal southerly winds and frequent squall lines contributed to cooling the surface layers of the ocean.

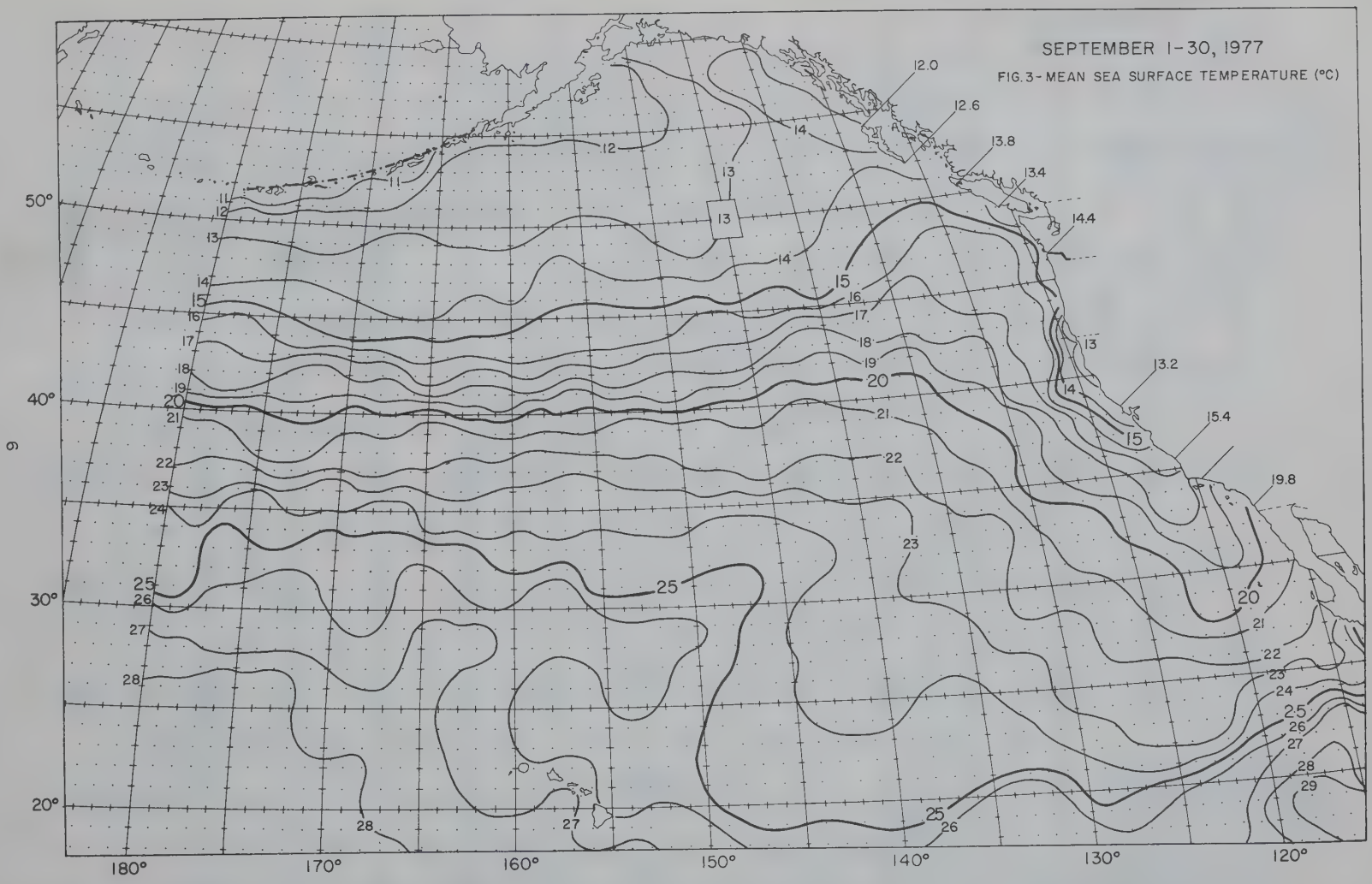
Along the equator east of 130°W from 5°N to 5°S, upwelling resulted in reducing SST's to below 25°C (Figure 8). From 3°N to the equator, the equatorial ocean front (north-south temperature gradient) was stronger in September 1977 than it had been since September 1975. Negative SST departures of 1 to 2°C expanded equatorially from Ecuador to 130°W since August 1977. This feature signified a return to normal equatorial upwelling, which should continue for several months and slowly expand westward into the area occupied by positive SST departures (Figure 9).

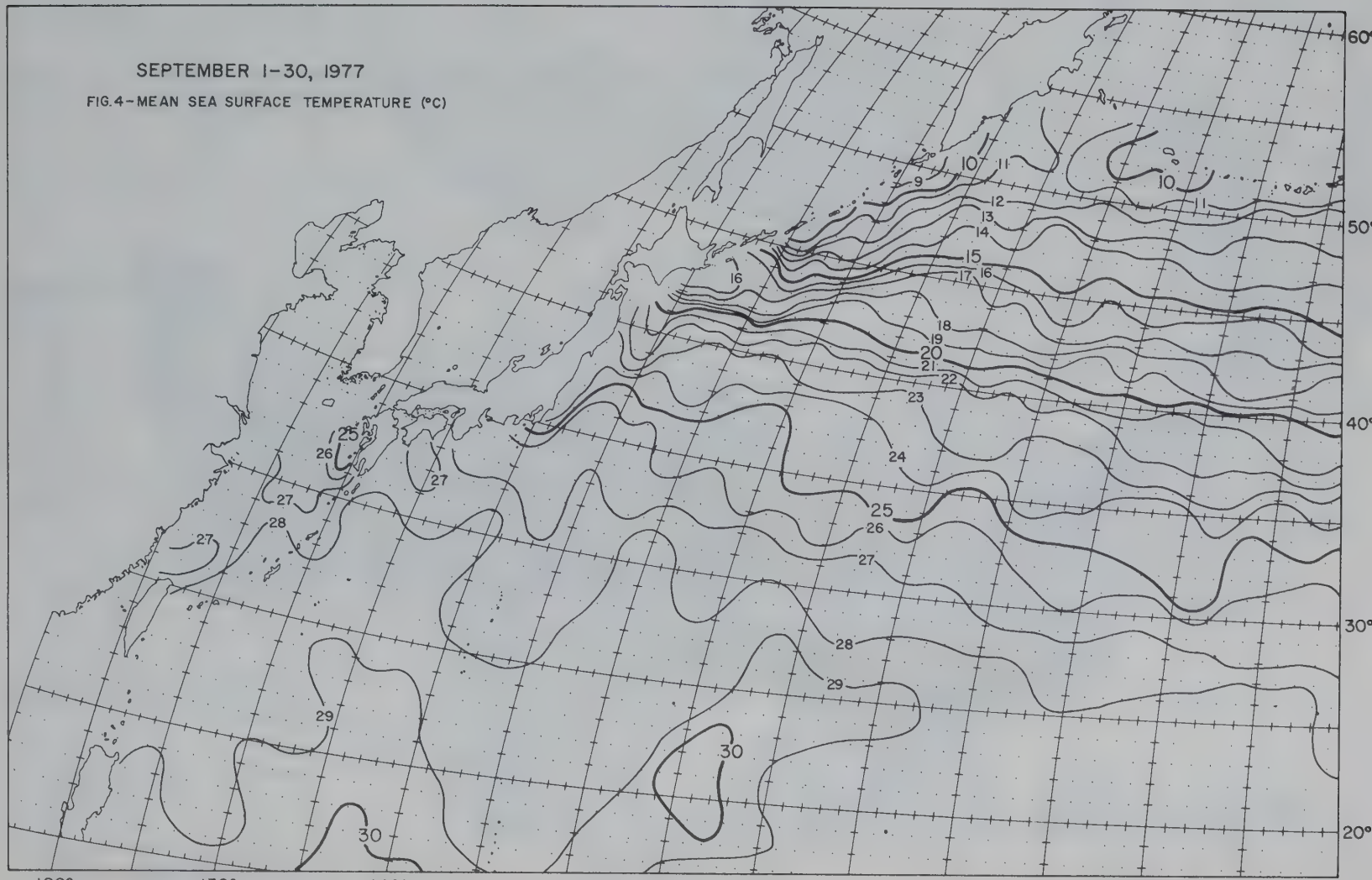
In the southern hemisphere east of 160°W from 5°S to 20°S SST's remained above normal. However, as the southern hemisphere high pressure center strengthened in September, the southeast trade winds and surface pressures north of 25°S and east of 100°W increased to above-normal values. As a result, SST's decreased at slightly faster than normal rates, especially along the coast of Peru and Ecuador. To the west of 85°W and from 5°S to 15°S a large area previosuly covered by positive departures greater than 1°C slowly diminshed.

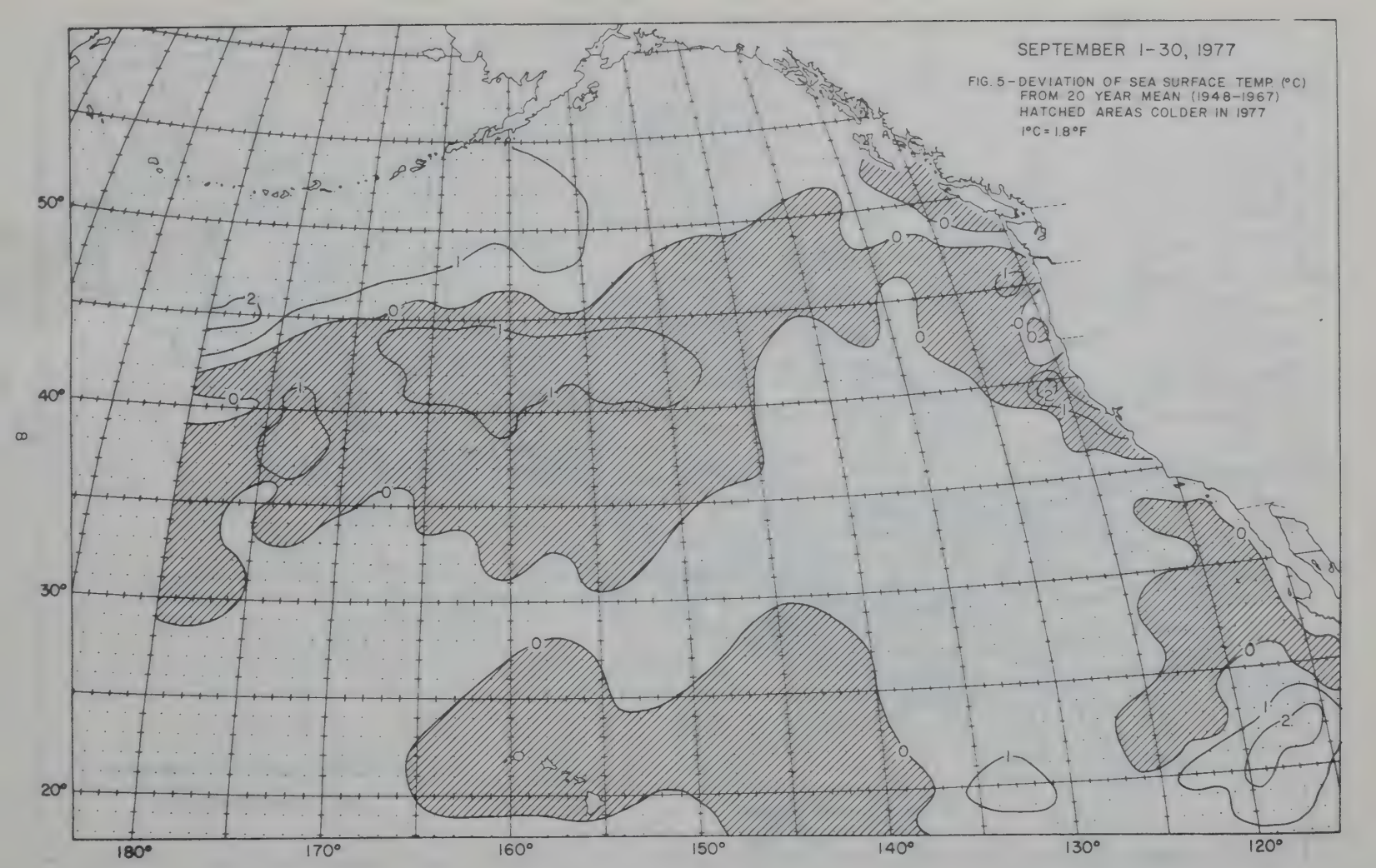


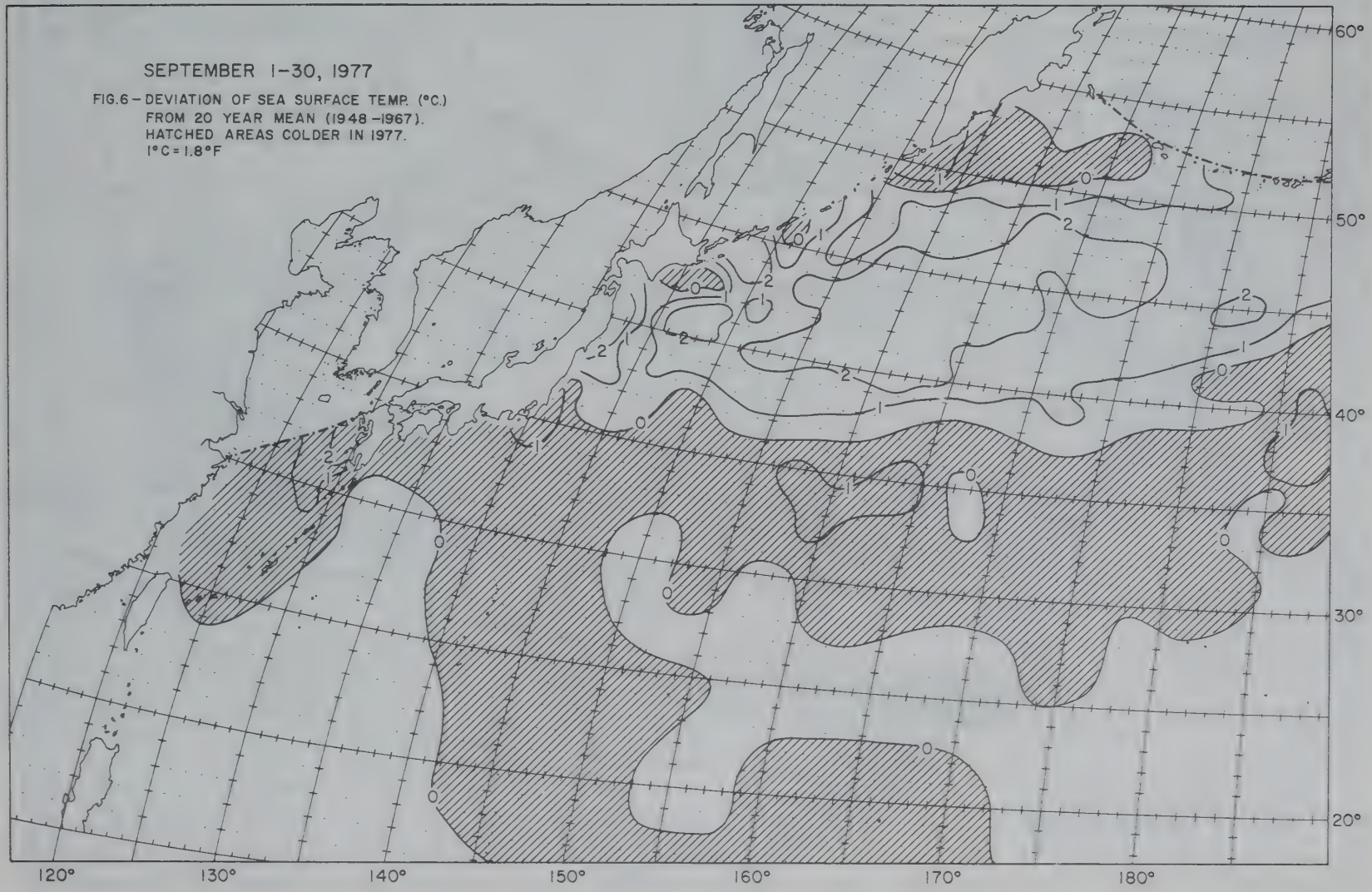

SEPTEMBER 1961 – 1977
FIG. 1 — OBSERVED MEAN VALUES
–0000– BAROMETRIC PRESSURE (MILLIBARS).
RESULTANT WIND DIRECTION.
No. RESULTANT WIND SPEED (KTS.)
No. AVERAGE WIND SPEED (KTS.) REGARDLESS OF DIRECTION.
60° N.
55 N.
50 N.
45 N.
40 N.
35 N.
30 N.
25 N.
20 N.
180° W.
175 W.
170 W.
165 W.
160 W.
155 W.
150 W.
145 W.
140 W.
135 W.
130 W.
125 W.
120 W.
115 W.
1008
1012
1016
1020
1016
1016

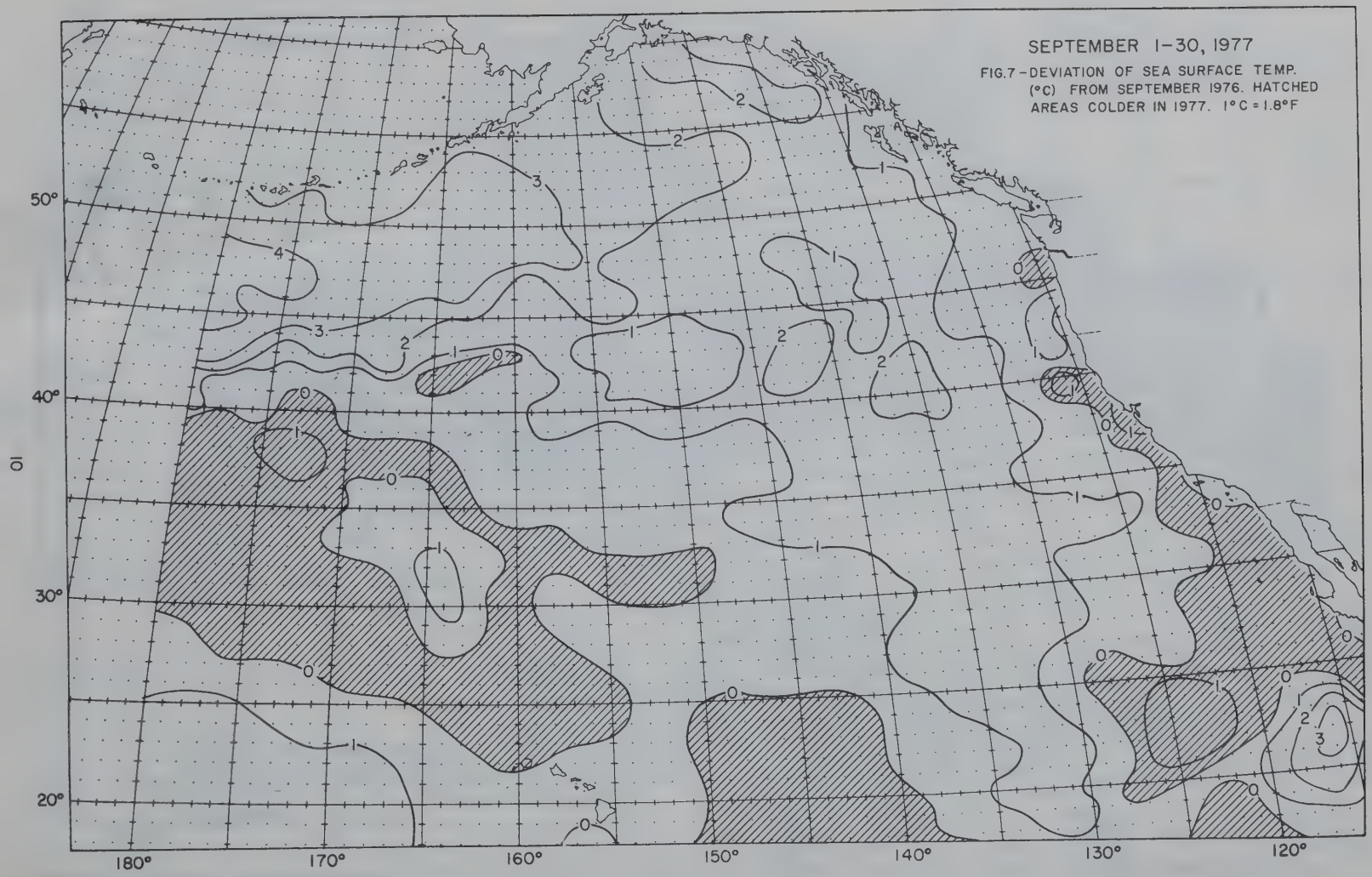

SEPTEMBER 1977
FIG. 2—OBSERVED VALUES
-0000-BAROMETRIC PRESSURE (MILLIBARS).
RESULTANT WIND DIRECTION.
No. RESULTANT WIND SPEED (KTS.)
No. AVERAGE WIND SPEED (KTS.) REGARDLESS OF DIRECTION.
60° N.
55 N.
50 N.
45 N.
40 N.
35 N.
30 N.
25 N.
20 N.
180° W.
175 W.
170 W.
165 W.
160 W.
155 W.
150 W.
145 W.
140 W.
135 W.
130 W.
125 W.
120 W.
115 W.
1012
1016
1020
1016
1016
0
0
5

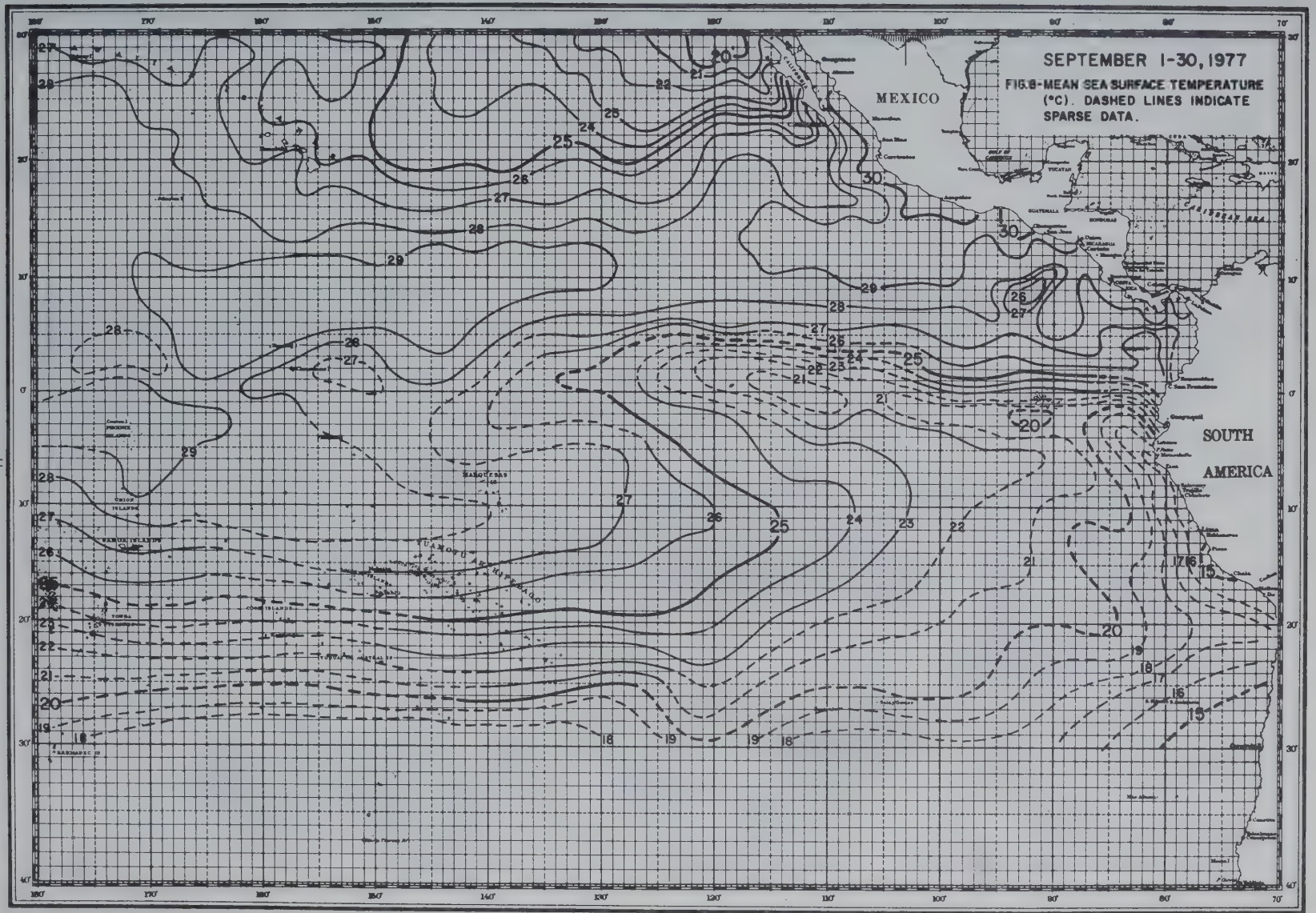

SEPTEMBER 1-30, 1977
FIG.3- MEAN SEA SURFACE TEMPERATURE (°C)
50°
40°
30°
20°
180°
170°
160°
150°
140°
130°
120°


SEPTEMBER 1-30, 1977
FIG.4-MEAN SEA SURFACE TEMPERATURE (°C)
60°
50°
40°
30°
20°
120°
130°
140°
150°
160°
170°
180°


SEPTEMBER 1-30, 1977
FIG. 5 - DEVIATION OF SEA SURFACE TEMP (°C) FROM 20 YEAR MEAN (1948-1967) HATCHED AREAS COLDER IN 1977
1°C = 1.8°F
50°
40°
30°
20°
180°
170°
160°
150°
140°
130°
120°


SEPTEMBER 1–30, 1977
FIG.6 – DEVIATION OF SEA SURFACE TEMP. (°C.) FROM 20 YEAR MEAN (1948–1967). HATCHED AREAS COLDER IN 1977.
1°C = 1.8°F
60°
50°
40°
30°
20°
120°
130°
140°
150°
160°
170°
180°


SEPTEMBER 1–30, 1977
FIG.7 – DEVIATION OF SEA SURFACE TEMP. (°C) FROM SEPTEMBER 1976. HATCHED AREAS COLDER IN 1977. 1°C = 1.8°F
50°
40°
30°
20°
180°
170°
160°
150°
140°
130°
120°


SEPTEMBER 1-30, 1977
FIG.8-MEAN SEA SURFACE TEMPERATURE (°C). DASHED LINES INDICATE SPARSE DATA.
MEXICO
SOUTH AMERICA

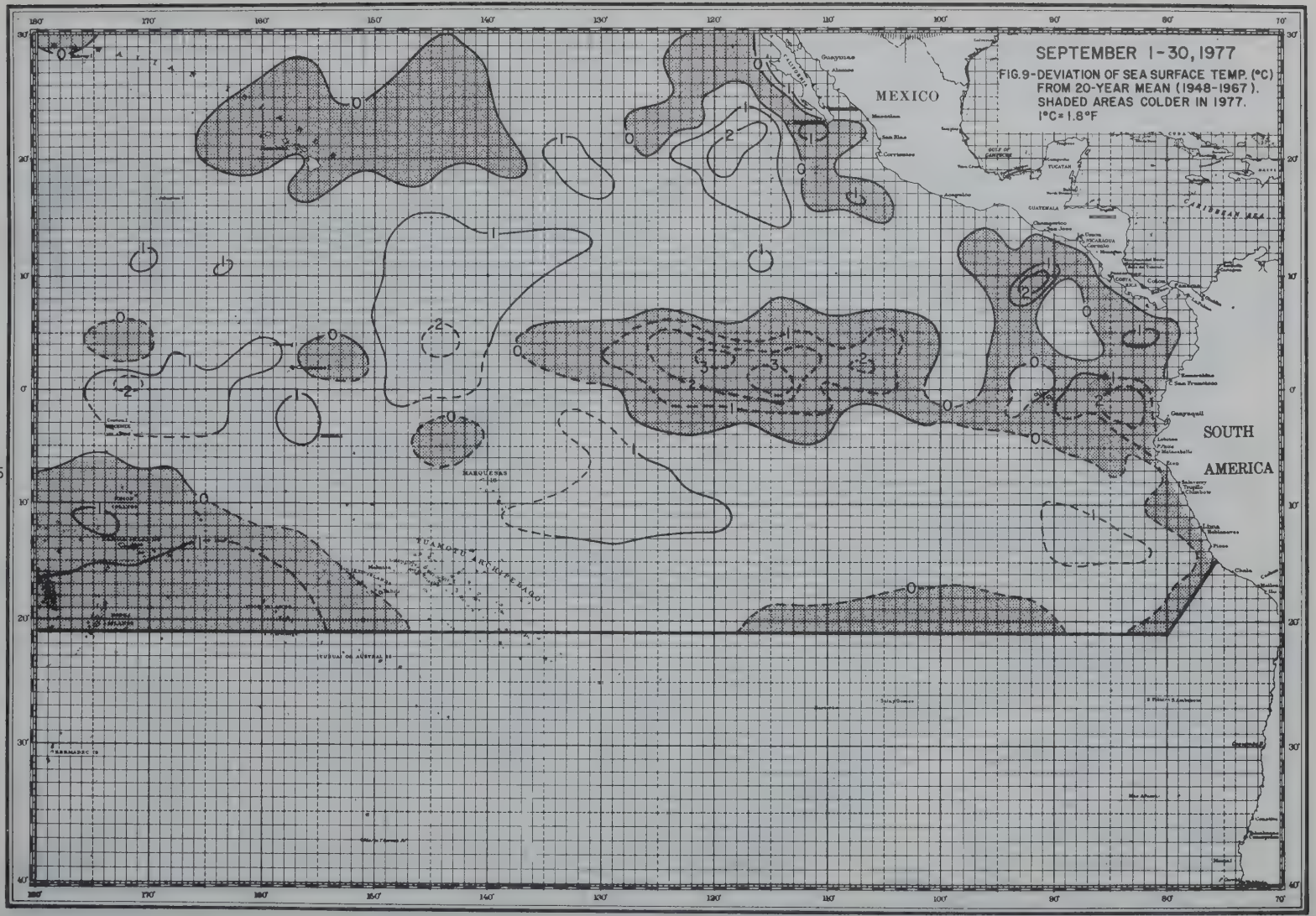
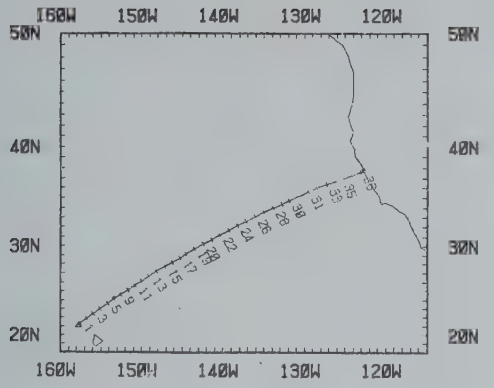
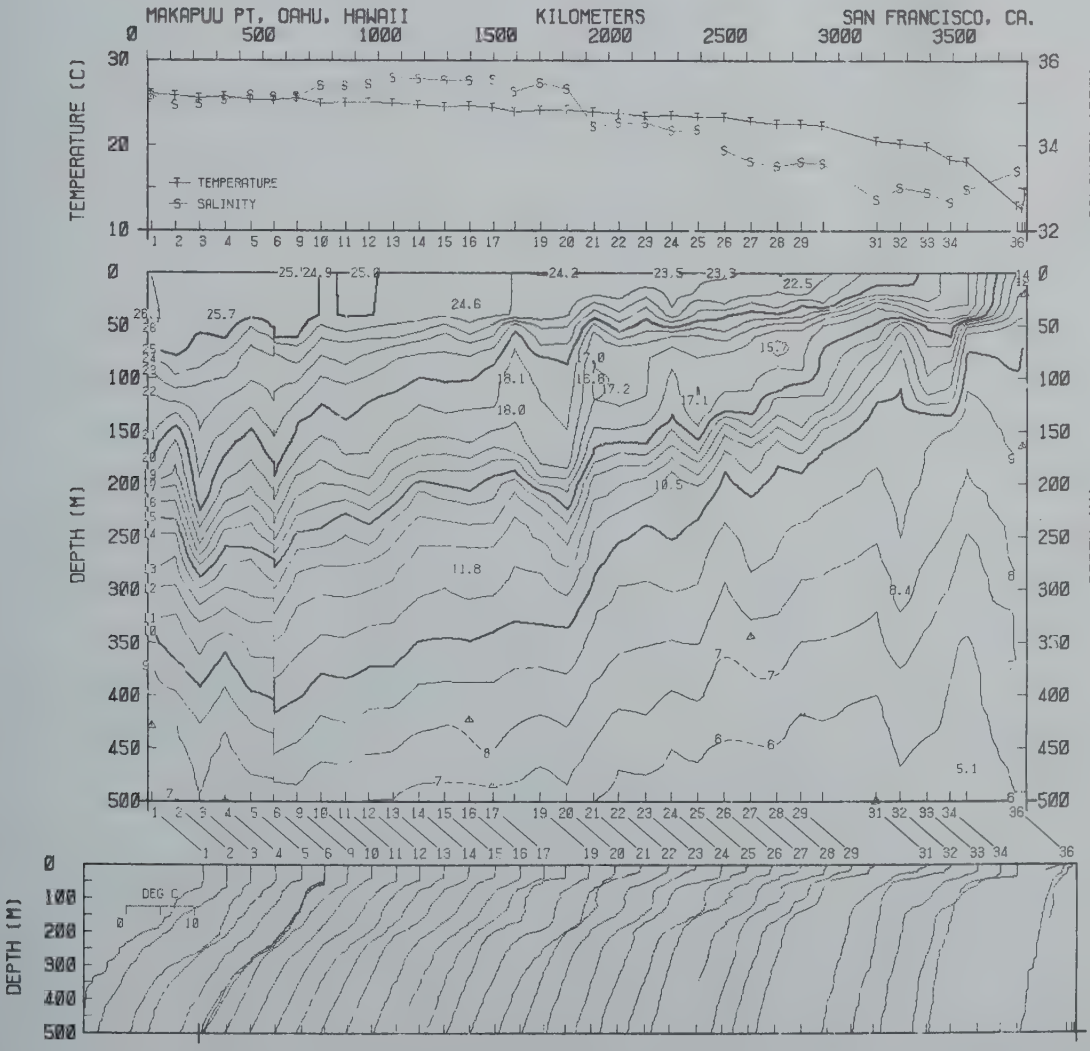

SEPTEMBER 1-30, 1977
FIG.9-DEVIATION OF SEA SURFACE TEMP. (°C) FROM 20-YEAR MEAN (1948-1967). SHADED AREAS COLDER IN 1977.
1°C = 1.8°F
MEXICO
SOUTH AMERICA
CARIBBEAN SEA
GUATEMALA
NICARAGUA
TUAMOTU ARCHIPELAGO
MARQUESAS

FIGURE 10

SHIP HAWAIIAN QUEEN
VOYAGE 209
MATSON
MAKAPUU PT, OAHU, HAWAII
- SAN FRANCISCO, CA.
01 SEP 1977 - 08 SEP 1977
NOAA-NMFS PEG MONTEREY, CA.





UNITED STATES
DEPARTMENT OF COMMERCE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL MARINE FISHERIES SERVICE
SOUTHWEST FISHERIES CENTER
8604 LA JOLLA SHORES DRIVE
P.O. BOX 271
LA JOLLA, CALIFORNIA 92038

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, $300
11ND-COM-2700/1 (REV. 6-75)

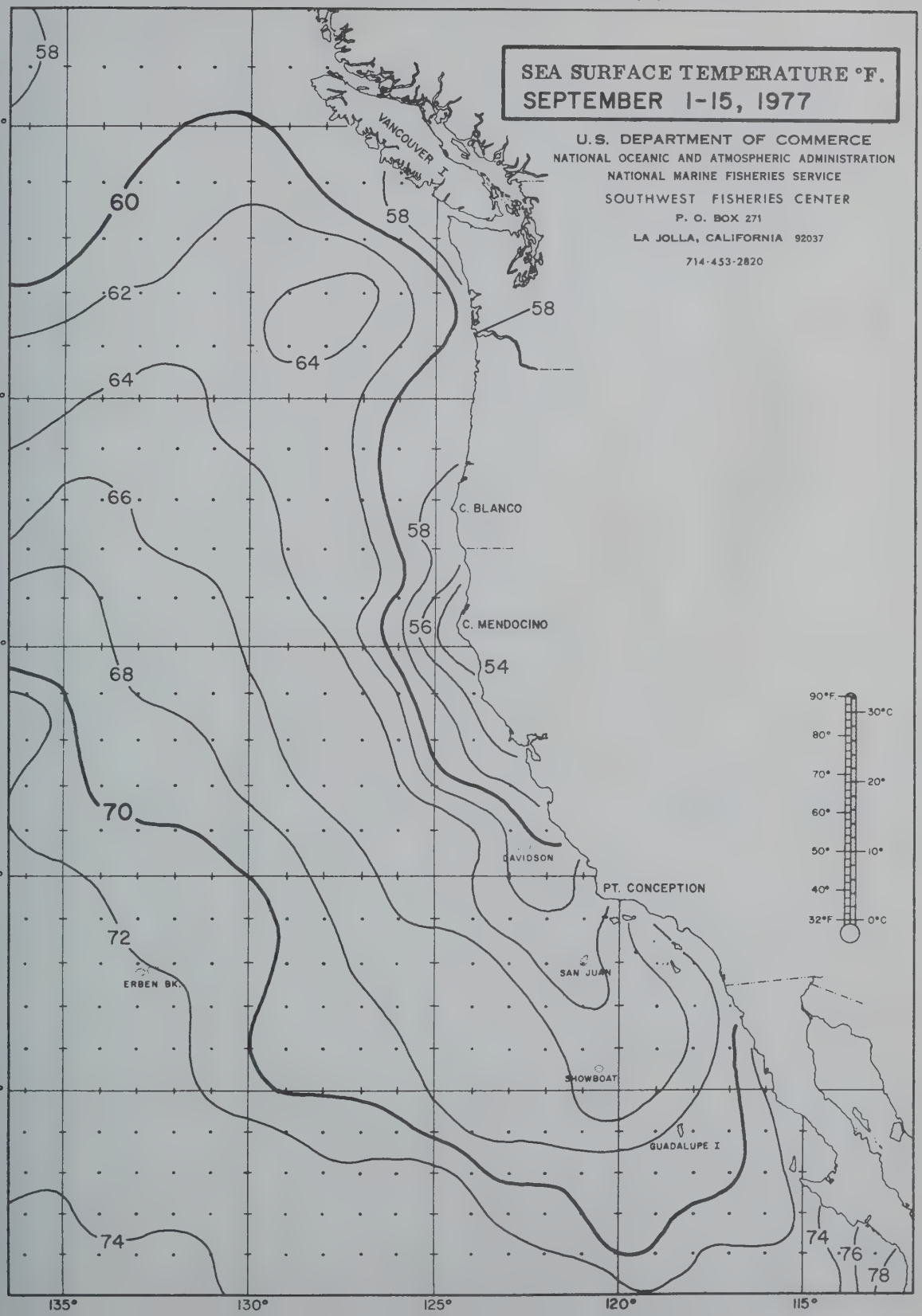
AN EQUAL OPPORTUNITY EMPLOYER

POSTAGE AND FEES PAID
DEPARTMENT OF COMMERCE
210

U.S.MAIL

FIRST CLASS

FISHING INFORMATION – supplement

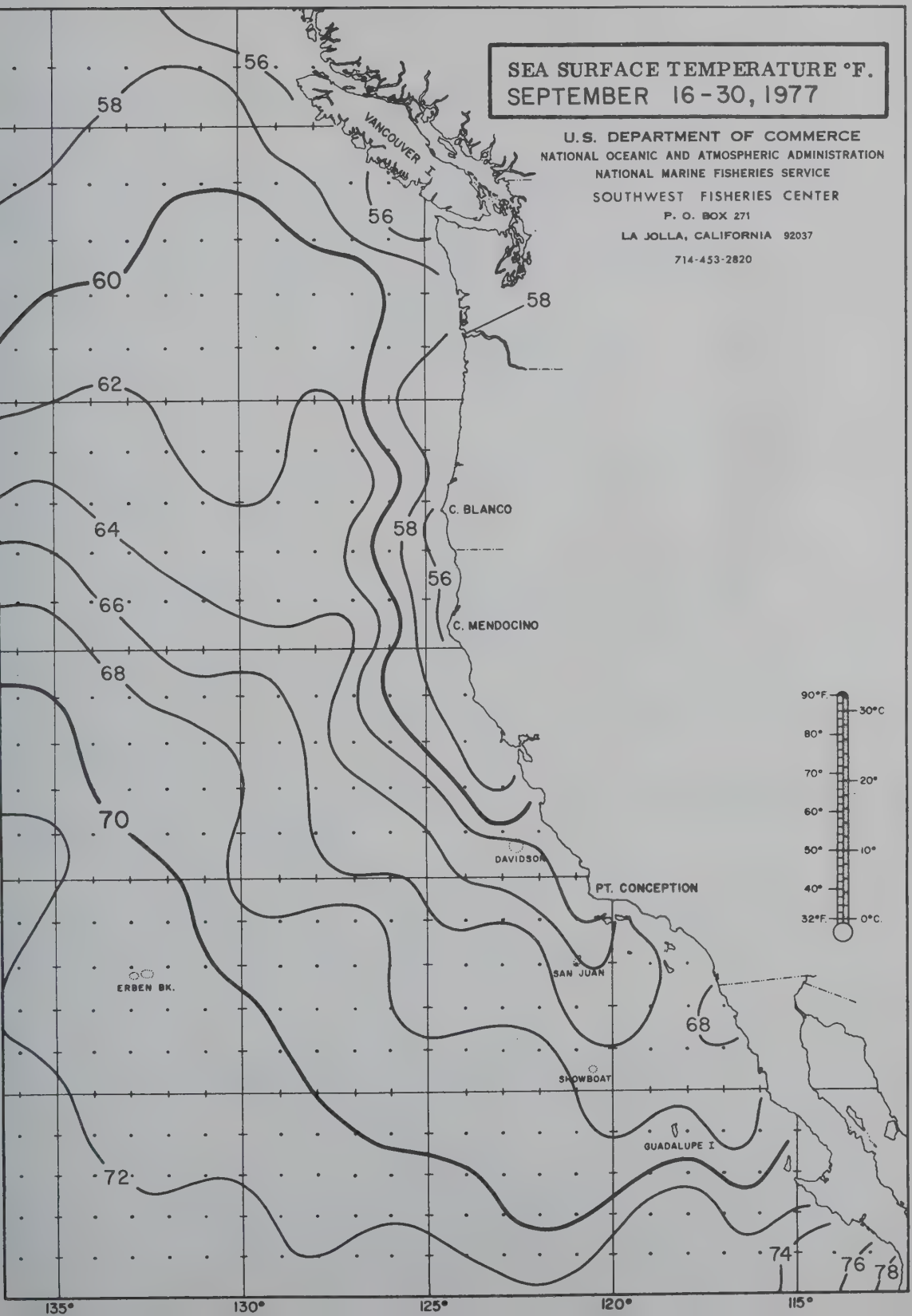


S. DEPARTMENT OF COMMERCE
AL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL MARINE FISHERIES SERVICE
SOUTHWEST FISHERIES CENTER
LA JOLLA SHORES DRIVE - P. O. BOX 271
LA JOLLA, CALIFORNIA 92038

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, $300

POSTAGE AND FEES PAID
U. S. DEPARTMENT OF COMMERCE
COM-210

FISHING INFORMATION – supplement



S. DEPARTMENT OF COMMERCE
ONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL MARINE FISHERIES SERVICE
SOUTHWEST FISHERIES CENTER
4 LA JOLLA SHORES DRIVE - P. O. BOX 271
LA JOLLA, CALIFORNIA 92038

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, $300

POSTAGE AND FEES PAID
U. S. DEPARTMENT OF COMMERCE
COM-210

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL MARINE FISHERIES SERVICE
Southwest Fisheries Center
La Jolla, California 92038

Bulletin No. 77-7

FISHING REMAINS SCATTERED; MOST CONSISTENT FISHING OFF CALIFORNIA

Daily jigboat scores from central California to Tasu Sound, Queen Charlotte Islands, were generally 30-100 fish from September 1-14. The most consistent areas of fishing were off central and northern California and near the southern end of the Queen Charlotte Islands. Boats in California waters, however, were hampered by rough seas for approximately one half of this period. When boats were able to fish, much of the fleet worked between the Davidson Seamount and west of Guide Seamount, off Ft. Bragg and within 100 miles of shore between Eureka and Crescent City. Weather conditions were better off the Queen Charlottes, but only a few boats were working the Tasu Sound - Cape St. James area.

Other locations produced some jigboat catches, however, fishing was inconsistent. Boats worked off Cape Flattery in the first week of September, but catches decreased and most of the boats left the area. Some fair catches were also made off Cape Lookout, Grays Harbor and near Cortez Bank on a few days.

Large fish of 20-25 pounds (9.1-11.4 kg) were caught between Eureka and Crescent City while albacore of similar sizes were caught off Tasu Sound during the first week of September. However, in the second week of September the albacore caught in the Tasu Sound - Cape St. James vicinity were primarily 12-14 pounds (5.5-6.4 kg). Albacore caught between Ft. Bragg and Monterey averaged about 11-13 pounds (5.0-5.9 kg).

Two of the American Fishermen's Research Foundations (AFRF), chartered jigboats scouted for albacore from the Columbia River to Cape St. James, Queen Charlotte Islands and from Newport to the San Juan Seamount during September 4-15. The Lusty fished in waters off Washington and British Columbia and reported 37-52 fish scores near the Dellwood Knolls on September 9, 10 and 12. Daily catches by the Lusty for the remainder of this period were 0-17 fish. All catches, except off Cape Flattery, were on albacore which averaged 11-12 pounds (5.0-5.5 kg). The Four C's, meanwhile, fished southward from Newport and did not catch any albacore until it was off Cape Blanco on September 6. As the Four C's continued southward, daily catches were 2-22 albacore. Except for the albacore which averaged 22 (10.0) and 6 pounds (2.7 kg) off Eureka and Point Sur on September 6 and 9, respectively, the Four C's caught albacore of predominantly 11-14 pounds (5.0-6.4 kg). The third AFRF chartered jigboat, Lady Olga, ended its contract on August 28.

San Diego sportboat catches for the first two weeks of September were poor. Anglers on these boats averaged about 1 fish on September 1 and 2, but total catches dropped to less than 60 albacore per day from September 9-14.

At the end of August, the center of high pressure over the eastern North Pacific was a little west of its normal location, at 37°N and 150-155°W, with slightly above normal intensity at about 1028 mb. During the first two weeks in September, the high pressure center shifted northward to about 45°N and, at first, became somewhat stretched out along this latitude before consolidating at 150-155°W with a maximum of about 1035 mb. The gradients associated with this pressure pattern resulted in northerly winds which were stronger in the northern part and weaker in the eastern part of the coastal region.

Correspondingly, sea surface temperatures decreased by 2°F or more in much of the coastal region north of Pt. Conception, out to 100 miles or more, but increased to the south. Moderate to strong upwelling between Pt. Conception and C. Blanco is indicated by the pattern of cold isotherms in the accompanying sea surface temperature chart for September 1-15. In consequence, the overall pattern of sea surface temperature conditions tended toward normal in inshore waters but continued to be up to 2°F warmer than normal west of 125°W, except in the area between 40° and 45°N.

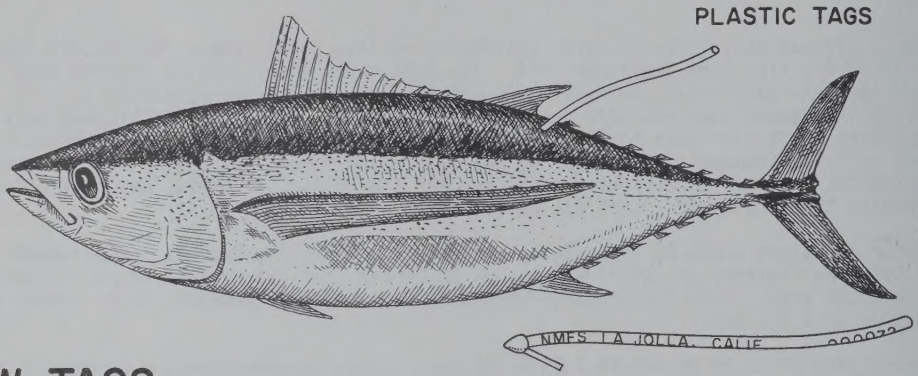
The Long Range Prediction Group of the National Weather Service expects pressures in the last parts of September to continue to be above normal to the west and north of the usual location of the North Pacific high pressure center. Over the western states, below normal pressures are expected, such that some enhancement of pressure gradients, and northly winds, may occur in coastal areas north of San Francisco. Southward, winds and pressures should tend toward normal conditions.

Staff, Albacore Fisheries Program
R. Michael Laurs, Leader

September 15, 1977

$ REWARD $

FOR ALBACORE TUNA TAGS



YELLOW TAGS

THE NATIONAL MARINE FISHERIES SERVICE WILL PAY $ 2.00 FOR EACH YELLOW TAG RECOVERED. (NO NEED TO RETURN FISH)

RECORD:

- ▶ WHERE
- ▶ WHEN
- ▶ HOW

} *FISH WAS CAUGHT*

- ▶ LENGTH OF FISH (TIP OF LOWER JAW TO FORK OF TAIL)

FORWARD TO NMFS ADDRESS ON TAG

RED TAGS

THE NATIONAL MARINE FISHERIES SERVICE WILL PAY $ 50.00 FOR EACH RED TAG & FISH RETURNED. (FISH WITH TAG INTACT MUST BE RETURNE

RECORD:

- ▶ WHERE
- ▶ WHEN
- ▶ HOW

} *FISH WAS CAUGHT*

- ▶ LENGTH OF FISH (TIP OF LOWER JAW TO FORK OF TAIL)

NOTIFY NMFS P.O. BOX 271, LA JOLLA, CA. TEL. (714) 453-2820

THE AMERICAN FISHERMEN'S RESEARCH FOUNDATION WILL AWARD CASH PRIZES FOR YELLOW & RED TAG NUMBERS DRAWN IN AN ANNUAL LOTTERY.

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL MARINE FISHERIES SERVICE
Southwest Fisheries Center
La Jolla, California 92038

Bulletin No. 77-8

ALBACORE SEASON POOR

Fishing boats were concentrated between Monterey and Crescent City during September 15-29, but rough seas and sistent fishing plagued the fishermen in the area. From September 15-20, most of the jigboats between Monterey Guide Seamount, west of Point Arena and Cape Mendocino, and between Crescent City and Eureka caught 30-100 fish with top scores of 200 or more fish on a few days. From September 21-29, rough seas curtailed fishing off erey and catches decreased for jigboats; however, baitboats in the same area were able to make good catches on days.

Fishing remained spotty in the Mendocino Ridge area from September 21-29 but some good catches of 100-200 fish made. Albacore landed from this vicinity and off northern California averaged 12-20 pounds (6.5-9.1 kg). left the area off Point Arena because albacore caught there were small.

In other locations, a few boats worked near the "dumping grounds" and Cortez Bank off San Diego and reported scores of 20-50 fish per boat. Many of these vessels used bait and in some cases rod and reel to catch large core of 25-35 pounds (11.4-15.9 kg).

On September 15, 4-5 boats averaged about 100 fish off Tasu Sound, Queen Charlotte Islands, but these boats reported to have left the area after this date.

Total landings for the 1977 North American albacore season are estimated to be about 9,500 tons. Unless catches ease, landings can be expected to be the lowest since 1951 when approximately 11,400 tons were landed.

The commercial albacore jigboats, Lusty and Four C's, remained on charter to the American Fishermen's Research dation (AFRF) during part of the last 2 weeks of September. The Lusty fished offshore Willapa Bay to Eureka September 15-20, but caught only two albacore between Willapa Bay and Cape Blanco on September 15-17. When Lusty entered the area off Crescent City and Eureka, its daily scores were 10-35 fish. The albacore caught by Lusty off northern California ranged from 9-27 pounds (4.1-12.3 kg) and averaged 13-16 pounds (5.9-7.3 kg). The C's, meanwhile, worked from southwest of Point Arguello southward to the Cortez Bank and San Martin Island re returning to San Diego on September 24. The Four C's reported catches of 0-33 fish daily with the higher nes made from the "dumping grounds" off San Diego to Point Arguello and the 0-fish days in the San Martin nd area. The Four C's caught albacore of 4-33 pounds (1.8-15.0 kg). Both the Lusty and Four C's have completed AFRF charter for the season.

San Diego sportboat catches for albacore were poor from September 15-21 as total daily landings were 20 fish ess. Since September 22, these boats have not fished for albacore.

During the last half of September, the high pressure center over the eastern North Pacific remained 5° to 10° ngitude west of the normal position near 37°N, 140°W. There were frequent passages of weather fronts southward from a deep low in the Aleutian Islands and Gulf of Alaska. As a result, surface winds and seas were high g frontal passages, but seas and winds were moderate to light over much of the Pacific east of 140°W at other .

Because there was no persistent high pressure ridge over the northwest U.S. coastal region, strong coastal did not persist between Cape Blanco and Cape Mendocino for very long periods. A weak low pressure trough ned along the U.S. west coast most of the last 15 days in September. Sea surface temperatures (SST) warmed ightly from early September between Cape Blanco and Point Conception. However, typical coastal upwelling kept slightly below normal over most coastal areas. Over a large part of the offshore region, SST's were about bove normal with an exception near 45°N, 126°W where SST's were 1° to 2°C below normal.

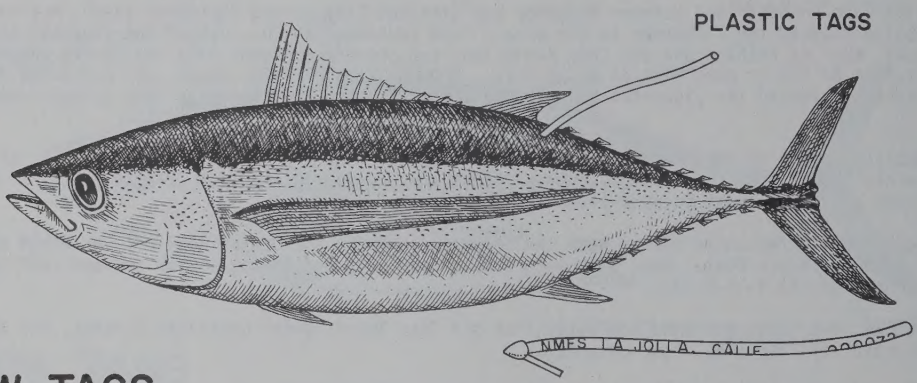
The Long Range Prediction Group, National Weather Service, forecasts the eastern Pacific high pressure center near 35°N, 147°W in October with central pressures near normal. Along the U.S. west coast, a weak low sure trough should prevail. Therefore, no high winds are expected during weather frontal passages. The weather tal passages into the northwest states will become more frequent in early October and SST's will show a definite nal drop over most of the fishing grounds. South of 40°N and west of 120° off shore, SST's will remain 1° to bove normal during the first half of October.

mber 30, 1977

Staff, Albacore Fisheries Program
R. Michael Laurs, Leader

$ REWARD $

FOR ALBACORE TUNA TAGS



YELLOW TAGS

THE NATIONAL MARINE FISHERIES SERVICE WILL PAY $ 2.00 FOR EACH YELLOW TAG RECOVERED. (NO NEED TO RETURN FISH)

RECORD:

- ▶ WHERE
- ▶ WHEN
- ▶ HOW

} *FISH WAS CAUGHT*

- ▶ LENGTH OF FISH (TIP OF LOWER JAW TO FORK OF TAIL)

FORWARD TO NMFS ADDRESS ON TAG

RED TAGS

THE NATIONAL MARINE FISHERIES SERVICE WILL PAY $ 50.00 FOR EACH RED TAG & FISH RETURNED. (FISH WITH TAG INTACT MUST BE RETURNED)

RECORD:

- ▶ WHERE
- ▶ WHEN
- ▶ HOW

} *FISH WAS CAUGHT*

- ▶ LENGTH OF FISH (TIP OF LOWER JAW TO FORK OF TAIL)

NOTIFY NMFS P.O. BOX 271, LA JOLLA, CA. TEL. (714) 453-2820

THE AMERICAN FISHERMEN'S RESEARCH FOUNDATION WILL AWARD CASH PRIZES FOR YELLOW & RED TAG NUMBERS DRAWN IN AN ANNUAL LOTTERY.